REMARKS

Claims 1-20 are pending. Claims 1 - 4 and 9 - 17 have been amended. New claims 21 - 23 have been added. No new matter has been introduced. Reexamination and reconsideration of the application are respectfully requested.

In the March 1, 2002 Office Action, the Examiner rejected claims 1-20. Claims 1-2 were objected to because of misspelling in lines 5 and 21, respectively. The Examiner rejected claims 1-4, and 9-10 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,212,733 to DeVitt. (the DeVitt reference). The Examiner rejected claim 11 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,283,819 to Glick (the Glick reference). The Examiner rejected claims 5 - 8 under 35 U.S.C. § 103(a) over the DeVitt reference, in view of U.S. Patent No. 5,524,060 to Silfvast (the Silfvast reference). The Examiner rejected claims 12 - 20 under 35 U.S.C. § 103(a) as being obvious over the Glick reference in view of the Silfvast reference. These rejections are respectfully traversed.

The present invention relates to a system interconnecting a computer and an audio device, which may operate independently of each other. The computer and the audio device may cooperate with each other so that computer audio data supplied from the computer are sent to the audio device via a serial bus such as a Universal Serial Bus (USB) and are reproduced in the audio device even if the audio device selects a source other than the computer. The audio device may be an audio component stereo system providing at least one audio source such as a tuner or a recording media, which provides audio source audio data. The audio device performs mixing between the audio source audio data and the computer audio data on the basis of the control data.

Speakers produce sounds based on the mixing result.

Claim 1, as amended, recites:

An audio system comprising:

an audio device;

a computer for creating computer audio data and control data for operating the audio device; and

data transmission means for linking the audio device and the computer together to transmit data therebetween;

wherein said computer has an output for *outputting the computer audio data* and the control data to the audio device via the data transmission means,

and wherein said audio device further comprises

a first system portion for processing audio source audio data that is provided by an audio source other than the computer,

a second system portion for *processing the computer audio data* from the computer, and

mixing means for performing mixing of the audio source audio data and the computer audio data, which are respectively processed by the first and second sound system portions.

The DeVitt reference relates to a system for interactively controlling multiple parameters affecting an audio output. A computer system communicates with mixing circuit via a 16-bit data bus and a 8-bit address and control bus. Col. 3, lines 12 - 15. The computer system acts as an interactive controller that generates multiple

parameter control signals provided to a mixing circuit, which acts as a sound signal processing circuit that modifies input sound signals to provide output sound signals based upon the multiple parameter control signals. Col. 3, lines 29 - 35. The mixing circuit includes a cross-point matrix, a programmable-gain matrix which receives sound input signals (e.g., from analog sound sources such as tapes, compact disks, synthesizers, musical instruments and voices) and provides output signals to right and left line level trim circuits. Col. 3, lines 36 - 41. The cross-point matrix includes an address decoder circuit, which receives address and control information over an address and control bus, as wall as a plurality of controllable amplifiers, which receive amplitude control information over a data bus, as well as sound input signals via input channels 64, 66, 68, and 70. Col. 3, lines 46 - 51.

The DeVitt reference does not disclose, teach, or suggest the system in claim 1, as amended. Unlike the apparatus in claim 1, as amended, the DeWitt reference does not show an audio system comprising an audio device and a *computer device for creating computer audio data* and control data wherein said computer has an output for *outputting the computer audio data* and the control data to the audio device, wherein the audio device further includes a second system portion for processing the *computer audio data* output from the computer. The DeVitt reference only states that the "computer system acts as a controller that generates multiple parameter control signals provided to the mixing circuit" and the "cross-point matrix includes address decoder circuit, which receives address and control information over address and control bus, as well as a plurality of controllable amplifiers, which receive amplitude control information over data bus as well as sound output signals via input channels." Col. 3, lines 29 - 32,

and Col. 3, lines 46 - 51. The DeVitt reference makes no mention of the computer device generating a *computer audio data wherein said computer has an output for outputting the computer audio data*. Instead the computer system in the DeVitt reference only outputs address and control information along with amplitude control information to the mixing device. Accordingly, applicants respectfully submit that independent claim 1, as amended, distinguish over the DeVitt reference.

Independent claims 2, 9, and 10 recite limitations similar to independent claim 1, as amended. Accordingly, applicants respectfully submit that independent claims 2, 9, and 10 distinguish over the DeVitt reference for the reasons set forth above with respect to independent claim 1, as amended.

Claims 3 - 8, as amended, depend directly or indirectly from independent claim 1 and claim 2, both as amended. Accordingly, applicants respectfully submit that claims 3 - 8, as amended, distinguish over the DeVitt reference for the reasons set forth above with respect to independent claims 1 and 2, both as amended.

Claim 12, as amended, recites:

> An audio system, comprising:
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> an audio device for producing first audio data in connection with at least one audio source,
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> *external* serial bus means, and
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> a personal computer, for producing second audio data and control data,
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> wherein the audio device performs mixing between the first audio data and the second audio data, which is *transmitted thereto via the*

external serial bus means, on the basis of the control data, so that speaker means produces sound based on mixing results.

The Glick reference does disclose, teach, or suggest the apparatus of claim 12, as amended. The Glick reference relates to a remotely controllable computing and multimedia entertainment system where a personal computer having an entertainment circuit is made up of a radio frequency circuit, a television circuit, an audio multimedia circuit, and a remote control circuit to provide programmable control of the entertainment circuit. The audio multimedia circuitry comprises a 7:1 mixer which may receive input from the television circuit, the radio frequency circuit, a CD-ROM, an A/D converter, a sound synthesizer and other external analog inputs, such as audio cassette, VCR, and microphone inputs. Col. 6, line 30 - 42. The analog mixer supports up to 7 analog input signals and allows selection for a combination of inputs may be input from a CD-ROM, an A-D - D/A converter, a sound synthesizer, input from a television circuit, and an AM/FM tuner circuit. Col. 13, lines 46 - 16.

Unlike the system in claim 12, as amended, the Glick reference does not disclose an audio system comprising an audio device for producing audio source audio data in connection with at least one audio source, external serial bus means, and a personal computer, for producing computer audio data and control data, *wherein the audio device performs mixing between the first audio data and the second audio data, which is transmitted thereto via the external serial bus means, on the basis of the control data, so that speaker means produces sound based on the mixing results*. Instead, the Glick reference only discloses a personal computer with an audio multimedia circuit, and not an audio device for

producing audio source audio data, a personal computer for producing computer audio data and control data, and *an external serial bus means*, wherein the audio device performs mixing between the audio source audio data and *the computer audio data, which is transmitted thereto via the external serial bus means*. The audio multimedia circuit of the Glick reference is part of or integrated with the personal computer and does not include an external serial bus means for transmitting second audio data from the computer to the audio device.

The Silfvast reference does not make up for the deficiencies of the Glick reference. The Silfvast reference relates to a variable-gain amplifier for receiving an input audio signal, applying a gain, and providing an output audio signal. More specifically, the Silfvast reference discloses management of an operator interface sub-system by a PC-compatible microcomputer connected to an audio mixer system via a serial link and connected to an amplifier unit, dedicated to digital signal processing, via a second serial link. Col. 9, lines 26 -35. Each channel of the audio mixer system has a plurality of inputs which may be summed and routed through an input amplifier, and the final product, a conditioned mix of the input signal, may also be passed through an amplifier before being routed to output equipment. The amplifier used in the Silfvast reference may be a module separate from a console which includes the audio mixer. Col. 5, lines 36 - 49.

The Silfvast reference does not disclose, teach, or suggest the system in claim 12, as amended. Unlike the system in claim 12, as amended, the Silfvast reference makes no mention of an audio system comprising an audio device for producing first

audio data, external serial bus means, and a personal computer, *for producing second audio data and control data*, wherein the audio device performs mixing between the first audio data and *the second audio data, which is transmitted to the audio device via the external serial bus means*. Instead, the Silfvast reference discloses communication between the audio device and the personal computer, but not the transmission of second audio data from the personal computer to the audio device.

Accordingly, applicants respectfully submit that independent claim 12, as amended, distinguishes over the Glick reference and the Silfvast reference.

Claims 16 - 20 depend directly or from independent claim 12. Accordingly, applicants respectfully submit that dependent claims 16 - 20 distinguish over the above-cited references for the reasons set forth above with respect to independent claim 12, as amended.

Claim 11, as amended, recites:

a machine readable media for storing an audio control program that causes a computer to actualize an audio control system comprising:

graphical user interface means for operating the audio device, the graphical user interface means actualizing an operation to select an audio source for the audio device and an operation to perform mixing on audio source audio data of the selected audio source and computer audio data given from the computer;

means for outputting control data to the audio device via an external serial bus means on the basis of operation of the graphical user interface means;

means for receiving information regarding operation of the audio device as the control data via the external serial bus means so as to reflect the control data in content

of graphical user interface; and

means for outputting the computer audio data to the audio device via the external serial bus means.

Claim 11, as amended, positively recites the limitations of outputting control data, receiving information regarding operation of the audio device, and outputting the second audio data, all via an external serial bus. The Glick reference does not disclose the outputting of control data, the receiving of information regarding operation of the audio device, and the outputting of audio data via an external serial bus means. Accordingly, applicants respectfully submit that claim 11, as amended, distinguishes over the Glick reference.

Claim 13, as amended, recites:

an audio system, comprising:

an audio device for producing first audio data in connection with at least one audio source,

external serial bus means, and

a personal computer, for producing second audio data and control data,

wherein the audio device further includes selection means for selecting one of the first audio data and the second audio data, which is transmitted thereto via an external serial bus means, *signal processing means for performing signal processing on output of the selection means*, first digital-to-analog conversion means for converting output of the signal processing means to first analog signals, *second digital-to-analog conversion means for converting the second audio data from the personal computer to second analog signals*, and analog mixing means for performing analog mixing between

the first analog signals and the second analog signals, whereby the speaker means produces sound based on the result of the analog mixing.

The Glick reference and the Silfvast references do not disclose, teach, or suggest the system in claim 13, as amended. Unlike the system in claim 13, as amended, the Glick and the Silfvast references are not found to disclose an audio system comprising an audio device for producing first audio data in connection with at least one audio source, external serial bus means, and a personal computer for producing second audio data and control data, wherein the audio device further includes selection means for selecting one of the first audio data and the second audio data, *signal processing means for performing signal processing on output of the selection means*, first digital-to-analog conversion means for converting output of the signal processing means to first analog signals, *second digital-to-analog conversion means for converting the second audio data from the personal computer to second analog means*, and analog mixing means for performing analog mixing between the first analog signals and the second analog signals. The Glick reference only teaches an audio device including selection means for selecting one of the first audio and the second audio data, and an analog mixing means for performing analog mixing between first analog signals and second analog signals, and not one *including signal processing means for performing signal processing on output of the selection means and a second digital-to-analog conversion means for converting the second audio data from the personal computer to second analog means*. Accordingly, applicants respectfully submit that claim 13, as amended, distinguishes over the Glick and Silfvast references.

Independent claims 21 - 23 recite limitations similar to independent claim 13, as

amended. Accordingly, applicants respectfully submit that independent claims 21 - 23 distinguish over the Glick and Silfvast references for the reasons set forth above with respect to independent claim 13, as amended.

Independent claim 15, as amended, recites:

an audio system, comprising:

an audio device for producing first audio data in connection with at least one audio source,

external serial bus means, and

a personal computer, for producing second audio data and control data,

wherein the audio device further includes selection means for selecting one of the first audio data and the second audio data, *signal processing means for performing signal processing on output of the selection means, adjustment means for performing adjustment on the second audio data with respect to sampling parameters, digital mixing means for performing digital mixing between output of the signal processing means and output of the adjustment means*, and *digital-to-analog conversion means for converting result of the digital mixing to analog signals*, and speaker means for producing the sound based on the analog signals.

The Glick and the Silfvast references do not disclose, teach, or suggest the system in claim 15, as amended. Unlike the system of claim 15, as amended, the Glick and the Silfvast references are not found to disclose an audio device, wherein the audio device includes selection means for selecting one of the first audio data and the second audio data, signal processing means for performing signal processing on output of the

selection means, adjust means for performing adjustment on the second audio data with respect to sampling parameters, digital mixing means for performing digital mixing between output of the signal processing means and output of the adjustments, and digital-to-analog conversion means for converting result of the digital mixing to analog signals. Instead the Glick reference only teaches analog mixing of a first audio data and a second audio data. Accordingly, Applicants respectfully submit that claim 15, as amended, distinguishes over the Glick and Silfvast references.

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Applicants believe that the foregoing amendments place the application in condition for allowance, and a favorable action is respectfully requested. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call either of the undersigned attorneys at the Los Angeles telephone number (213) 488-7100 to discuss the steps necessary for placing the application in condition for allowance should the Examiner believe that such a telephone conference would advance prosecution of the application.

Respectfully submitted,

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APPENDIX

Please add claims 21 - 23 and amend claims 1 - 4 and 9 - 17, as follows:

1. (Amended) An audio system comprising:

an audio device;

a computer for creating computer audio data and control data for operating the audio device; and

data transmission means for linking the audio device and the computer together to transmit data therebetween,

wherein said computer has an output [means] for outputting the computer audio data and the control data to the audio device via the data transmission means,

[while] and wherein said audio device [further comprises] includes

a first system portion for processing audio source audio data that [are given] is provided by an audio source [differed from the audio data of] other than the computer,

a second system portion for processing the computer audio data [given] from the computer, and

mixing means for performing mixing [for a plurality] of the audio source audio data and the computer audio data, which are respectively processed by the first and second sound system portions.

2. (Amended) An audio system comprising:

an audio device;

a computer for creating computer audio data and control data for operating the audio device; and

data transmission means for linking the audio device and the computer together to transmit data therebetween,

wherein said computer has an output [means] for outputting the computer audio data and the control data to the audio device via the data transmission means,

[while] and wherein said audio device [further comprises] includes

a first system portion for performing signal processing on the computer audio data from the computer, or for performing the signal processing on audio source audio data of an audio source differe[d]nt from the computer audio data[of the computer], or the audio source audio data selectively [given from] provided by one of a plurality of audio sources differe[d]nt from the computer,

a second system portion for performing simple signal processing, which is simple as compared with the signal processing of the first system portion, on the computer audio data from the computer,

mixing means for performing mixing [for a plurality]of the audio source audio data and the computer audio data, which are respectively processed by the first and second system portions, and

means for turning off the mixing of the mixing means when the first system portion performs the signal processing selectively on the computer audio data of the computer.

3. (Amended) An audio system according to claim 1, wherein the computer further [comprises] includes

display means for displaying an operation panel for operating the audio device,

means for outputting the control data to an audio device via the data transmission means on the basis of operation of the operation panel,

means for receiving information regarding operation made by the audio device via the data transmission means as the control data so as to reflect [it] the control data in content of the operation panel, and

means for outputting the computer audio data to the audio device via the data transmission means.

4. (Amended) An audio system according to claim 2, wherein the computer further [comprises] includes

display means for displaying an operation panel for operating the audio device,

means for outputting the control data to the audio device via the data transmission means on the basis of the operation of the operation panel,

means for receiving information regarding operation [made by] of the audio device via the data transmission means as the control data so as to reflect [it] the control data in content of the operation panel, and

means for outputting the computer audio data to the audio device via the data transmission means.

9. (Amended) An audio device comprising

at least one audio source;

an interface for inputting computer audio data supplied from a

computer,

audio processing means for processing audio source audio data [given from] provided by the audio source and the computer audio data [given from] provided by the computer;

mixing means for performing mixing between the audio source audio data processed by the audio processing means and the computer audio data [which are input thereto via the interface]; and

speaker means for producing sound based on output of the mixing means.

10. (Amended) An audio device comprising:

input means for inputting audio source audio data supplied from an audio source differe[d]nt from a computer;

an interface for inputting computer audio data supplied from the computer;

mixing means for performing mixing between the audio source audio data input by the input means and the computer audio data which [are] is input thereto via the interface; and

speaker means for producing sound based on output of the mixing means.

11. (Amended) A machine readable media for storing an audio control program that causes a computer to actualized an audio control system comprising:

graphical user interface means for operating the audio device, the graphical user interface means actualizing an operation to select an audio source for the audio device

and an operation to perform mixing on audio source audio data of the selected audio source and computer audio data [given from] provided by the computer;

means for outputting control data to the audio device via an external serial bus means on the basis of operation of the graphical user interface means;

means for receiving information regarding operation of the audio device as the control data via the external serial bus means so as to reflect [it] the control data in content of graphical user interface; and

means for outputting the computer audio data to the audio device via the external serial bus means.

12. (Amended) An audio system, comprising:

an audio device for producing first audio data in connection with at least one audio source,

external serial bus means, and

a personal computer, for producing second audio data and control data,

wherein the audio device performs mixing between the first audio data and the second audio data, which [are] is transmitted thereto via the external serial bus means, on the basis of the control data, so that speaker means produces sound based on mixing results.

13. (Amended) An audio system[according to claim 12, wherein the audio device further], compris[es]ing:

an audio device for producing first audio data in connection with at least one audio source,

external serial bus means, and

a personal computer, for producing second audio data and control data,

wherein the audio device further includes selection means for selecting one of the first audio data and the second audio data, which is transmitted thereto via an external serial bus means, signal processing means for performing signal processing on output of the selection means, first digital-to-analog conversion means for converting output of the signal processing means to first analog signals, second digital-to-analog conversion means for converting the second audio data from the personal computer to second analog signals, and analog mixing means for performing analog mixing between the first analog signals and the second analog signals, whereby [the] speaker means produces sound based on the result of the analog mixing.

14. (Amended) An audio system according to claim 13, wherein the audio device further comprises

switch means for disconnecting the second digital-to-analog conversion means from the analog mixing means when the selection means selects the second audio data.

15. (Amended) An audio system [according to claim 12, wherein the audio device further] compris[es]ing:

an audio device for producing first audio data in connection with at least one audio source,

external serial bus means, and

a personal computer, for producing second audio data and control data,

wherein the audio device further includes selection means for selecting one of the first audio data and the second audio data, signal processing means for performing signal processing on output of the selection means, adjustment means for performing adjustment on the second audio data with respect to sampling parameters, digital mixing means for performing digital mixing between output of the signal processing means and output of the adjustment means, and digital-to-analog conversion means for converting result of the digital mixing to analog signals, [whereby the] and speaker means for producing the sound based on the analog signals.

16. (Amended) An audio system according to claim 12, wherein the external serial bus means corresponds to a universal serial bus.

17. (Amended) An audio system according to claim 12, wherein the external serial bus means corresponds to an IEEE 1394 serial bus.

21. (New) An audio system comprising:

an audio device;

a computer for creating computer audio data and control data for operating the audio device;

wherein said computer has output means for outputting the computer audio data and the control data to the audio device via the data transmission means,

while said audio device includes

a first system portion including selection means for selecting one of

audio device audio data and the computer audio data, signal processing means for performing signal processing on output of the selection means, first digital-to-analog conversion means for converting output of the signal processing means to first analog signals,

a second system portion including second digital-to-analog conversion means for converting the computer audio data given from the personal computer to second analog signals,

analog mixing means for performing analog mixing between the first analog signals and the second analog signals.

22. An audio device comprising:

at least one audio source;

an interface for inputting computer audio data supplied from a computer;

audio processing means for processing audio data given from the audio source and the audio data given from the computer wherein the audio device further includes selection means for selecting one of the first audio data and the second audio data, signal processing means for performing signals processing on output of the selection means, first digital-to-analog conversion means for converting output of the signal processing means to first analog signals;

analog mixing means for performing mixing between the audio data processed by the audio processing means and the computer audio data which is input thereto via the interface.

23. (New) An audio device comprising:

input means for inputting audio source audio data supplied from an audio

source different from a computer;

interface for inputting computer audio data supplied from the computer;

selection means for selecting one of the audio source audio data and the computer audio data;

signal processing means for performing signal processing on output of the selection means;

first digital-to-analog conversion means for converting output of the signal processing means to first analog signals;

second digital-to-analog conversion means for converting the computer audio data from the personal computer to second analog signals,

analog mixing means for performing mixing between the audio source audio data input by the input means and the computer audio data which are input thereto via the interface; and

speaker means for producing sound based on output of the mixing means.